

XXIX.—*Letters, Announcements, &c.*

WE have received the following letters addressed "To the Editor of 'The Ibis'":—

Etawah, North West Provinces, India.
13th March 1868.

SIR,—I should be very glad if you or one of your most experienced contributors would write a paper describing the plumage of the well-known European Eagles in the different stages, commencing with *Aquila chrysaetus*. What is the nestling-plumage like? Is it dark brown like that of the old bird? Then what is the plumage after the first moult? and how does this change in the second year? The old bird is understood to be of a uniform dark brown, with the head of a lighter colour. What is the exact plumage of a very old Golden Eagle? To what extent does the head become light-coloured?

The next species I should like to see considered is *A. imperialis*. This bird is not uncommon in this country, for I have ten or eleven specimens; of these not one is an old bird. Those which I take to be in their first plumage are of a general light greyish-brown, with quill- and tail-feathers dark brown. These specimens strongly show light bars across the closed wing, caused by the broad light edges to the greater coverts and ends of the secondaries. The other specimens which I have, which I take to be in the next stage of the plumage, are similarly coloured on the upper parts; but the whole of the lower parts, except the chin and under tail-coverts, are dark brown, with the centre of each feather a very pale brownish-white. This gives the bird an appearance of being generally longitudinally striped beneath. Even when flying over one, the striped plumage can be distinguished. This plumage, if the individuals exhibiting it belong to the same species, must be that of the second year. But a pair of birds in this plumage have been seen engaged in building their nest, which, however, was abandoned without an egg being laid. The old Imperial Eagle is the well-known dark bird with a light buff head, and white shoulder-patches when sufficiently old to have them. When does the change of plumage from one stage to another take place, and how does it take place? for out of the many specimens I have seen I do not remember one

showing the bird to be in a transition state. Can any one throw light on the subject? Has any one seen the nestling Imperial Eagle fully fledged? and of what colour was the plumage?

One well-known bird here, *Aquila fulvescens*, which, after all that has been said, may turn out to be *A. navioides* and not a distinct species, has not a light-centred or striped plumage. I have certainly shot sixty or seventy specimens; and they vary, from a very light faded brown, or sort of dirty buff, to a fine dark hair-brown. Some of my specimens are patched with a mixture of dark and light brown. But the darkest brown of the "Wokhab," is not equal to the fine rich clove-brown of the Spotted Eagle (*A. navia*). The plumage, too, of *A. fulvescens* is harsh to the touch, and not of that smooth softness which characterizes the plumage of *A. navia*. I may here remark, while I think of it, that the eggs of *A. fulvescens* frequently run very large, sometimes exceeding those of *Haliaetus leucoryphus* and *Aquila imperialis*. The bird, too, sometimes is found sufficiently large and robust to be called *A. navioides*. I wish I had a few skins of this last for comparison. My idea is that in the northern parts of India the bird runs larger than in the more southern.

The third Eagle which puzzles me is *A. navia*. I have many specimens in the well-known spotted plumage figured by Yarrell (B. B. 3rd ed. i. p. 20), with the under parts, excepting the under tail-coverts, of a dark brown with lighter brown centres to the feathers. This mode of marking gives the bird a striped appearance below, which is not conspicuous at a distance, as the two shades of brown approach each other nearer than they do in what I take to be the two-year old Imperial Eagle. The thighs or tibial plumes are more conspicuously marked by having the feathers with pale centres. Even in this spotted plumage (as seen in Yarrell's woodcut) the bird when sitting at a distance of sixty or seventy yards presents a very dark appearance, quite black-looking in fact. The old bird is, as is well known, of a fine dark clove-brown without spots, and then has a truly black appearance at a little distance. There are a few soft white feathers at the lower end of the upper tail-coverts, just where they join the tail. The upper parts of the *shafts* of the tail-feathers are very white indeed, shaded gradually into the dark-

brown or black ends. The dark tail-feathers are seldom rayed or barred, and when so, very slightly. In this respect the tail-feathers of *A. nœvia* and *A. fulvescens* differ strongly, the latter having the bars very conspicuous. The tail of *A. nœvia* is much broader, and more square too, than that of *A. fulvescens*. I may here remark that the tarsal feathers of the old *A. nœvia* become more or less pure white. I have seen one fine old dark bird with the tarsus quite white, and I have another partly changed. The tarsus of the two-year old bird is clove-brown.

Of the first (?) and most unusual plumage I send a rough sketch and also a description I noted down of a bird shot a few days ago. The peculiarity of the specimen is the extremely light buff colour of the head and the whole lower plumage, and the grey and light buff colour of the shoulders. The only dark feathers are the large scapularies, primaries, secondaries, and tail-feathers.

Though my drawing is very rude, I have correctly given the colour of the head and lower parts ; but the lower part of the scapulars should be darker. The lesser wing-coverts are a mixture of buff, pale brown, and positive white, so arranged that the shoulders seem to be of a buff-grey. The colouring is very peculiar, and I am not sufficiently skilful to represent it on paper. The ends of the upper tail-coverts are as in *A. nœvia*, pure white. In character and *frog-eating* habits the bird appears to resemble *A. nœvia*. If so, what plumage is this ? Is it the nestling-plumage ? Of the two dozen specimens of *A. nœvia* I have seen, two only have occurred in this plumage, four or five in the old dark spotless plumage, and very many in the spotted plumage so well known from Yarrell's figure. Mature birds are generally much more scarce than those in immature plumage ; but why should the youngest plumage of all be so rare ? Numbers of *A. nœvia* were seen and not shot ; but Mr. Hume, who has had much more experience in Eagles than myself, has only seen one buff bird, the one I shot last year in February ; and I have, in addition to this, just obtained another, shot on the 11th of March this year. The first bird is a male, the last a female. In plumage they are extremely alike. I notice that the bill is of a much paler blue than the old bird's, so also with the cere

and feet. They are more of a pale whitish-yellow. Does not this indicate youth? But the feathers are *well worn*, especially the ends of the tail-feathers.

A. nævia, though only a cold-weather visitant here, breeds at this side of the Himalayahs in the Saharunpore district, as a correspondent of Mr. Hume's informs him; and he has received the egg (a finely blotched and spotted one) thence. In the crops of all those we examined we only found frogs. This is perhaps the reason why the bird is so seldom seen except where water is plentiful. The bird is frequently seen seated among the half-submerged grass, where it watches for its prey, much as a Heron would. The bills and claws of those I shot were often covered with mud, and their crops could hardly have held another frog.

My last remark is that I have a skin of *Milvus govinda*, or what I take to be that species, with the lower parts dark brown, each feather having a very light brownish-white central stripe. This gives my Kite as distinct a striped appearance as is shown in the second specimen of the Imperial Eagle, described above. This example is the only striped Kite I have seen; but I should add I have not shot many of these useful birds. I once saw one kill a cobra, which it did by tearing up the top of the head, eyes included. Since that I have respected *M. govinda*. We have some extremely large Kites here. Can they be the same species? The plumage is the same; but the size varies, like that of *Aquila fulvescens* before mentioned.

I have now said sufficient on this subject; and if any one of your contributors will take it up, and clear up everything connected with changes of plumage in the true Eagles, I shall be very glad indeed. A short and accurate description of the different large Falcons would also be very useful. I mean the Peregrines and Lanners especially, showing in each the distinguishing characteristics. The young plumage of each requires particular description, as I believe they much resemble each other, *Falco jaggur* excepted, which is quite a dark-brown bird.

I remain, &c.,

W. E. BROOKS.

. [We have submitted our correspondent's letter with its enclosures to Mr. J. H. Gurney, who kindly informs us that he

suspects the bird therein drawn and described to be *Aquila hastata*, Lesson (Jerdon, B. Ind. i. p. 62), a rare species, of which he has never seen an *identified* specimen, though he believes an example in the Norwich Museum (formerly in the collection of the Zoological Society) to be referable to it. This example, he adds, in some of its characters appears to be intermediate between *A. naevia* and the African *A. mursi*. *Aquila hastata* does not seem to have been ever figured; and we trust Mr. Brooks will send home some of the specimens about which he is in doubt, so that, should they prove to belong to that species, as is suspected, we may give with his description (which we at present withhold) a representation of it.—ED.]

Hongkong, April 20, 1868.

SIR,—I have had my tour in Hainan, and met with pretty tolerable success, especially in the bird line. I was, however, disgusted at finding no Pheasant, not even *Phasianus torquatus*, in that land of cocoa-nuts. The Game bird was a wretched Jungle-cock. Among the smaller birds there were many of great interest—two species of *Nectarinia*, two of *Dicaeum*, a fine Parakeet, *Gracula*, *Zanclostomus*, *Artamus*, *Criniger*, and so on. Our *Ixus sinensis* assumes there a *black* head without any white. *Gracula* of the opposite coast changes the shape of its cheek-wattles. *Garrulax auritus (sinensis)* dwindles in size, and loses its white cheek. The red-cheeked moustached Parakeet of West China alters into a cognate but a handsomer species in Hainan. A yellow-necked *Argala* occurs, and *Grus cinerea* frequents the plains in large numbers. The Magpie builds its nest in the cocoa-nut trees; and clumps of the Pine (*Pinus sinensis*) grow up close to the tops of the cocoa-nut. A large spotted Lizard in the south part of the island has the side-skin expanded, and flies along the sand; another species, inhabiting trees, has its ribs greatly produced and covered with skin, thus forming ample wings. This species, at first sight, calls to one's mind the large-winged *Bacteria* of Africa. I believe it to be an *entirely new form*, and one that will delight the Darwinians.

In the aviary of the Prefect of Hainan I saw Selater's Peacock, *Pavo nigripennis*, which the Prefect assured me came from

Annam or Cochin China (proper) There is a pair of the same species at this moment in a birdshop here ; and I now believe *P. nigripennis* to be the species known as the "Bird of Confucius," the tail-feathers of which are worn in Mandarins' hats as tokens of merit. Chinese works state that the Peacock occurs in the west of China, bordering Cochin China. This identification will please Mr. Sclater.

I am off to Canton for a week or so to finish my report on Hainan for the Government, after which I have to proceed to Peking to report myself to H. M. Minister. I shall probably touch at Shanghai. I hope in the course of two or three months to find myself comfortably settled in one of the Ports of the Yangtsze, either Kinkiang or Hankow, where I may find time to work up my Hainan collection and the last good things procured at Amoy. Fancy *Cochoa viridis* of the Himalayas being picked up at Amoy ! I am suffering from neuralgic headaches, and was greatly bothered by the same during the whole of the Hainan cruise. This will account for the present hurried letter.

Yours sincerely,

ROBERT SWINHOE.

SIR,—It does not seem unlikely that the Sparrows mentioned by Capt. Beavan in his last paper (*anteà*, p. 173) were females of *Passer pyrrhonotus*, nobis, which is an exceedingly well-characterized species, though I have only seen the type-specimen of it, which was procured at Buháwulpur in Sindh by Sir A. Burnes. Observers in the North-west Provinces of Upper India should look out for this pretty little Sparrow, the male of which is particularly distinguished by its maroon-coloured rump. Of *Emberiza cia* (*anteà*, p. 175, note), I have compared two Himalayan specimens with a European one in the possession of Mr. Gould. The two former, *i. e.* the particular specimens in question, have the black streaks on the head more strongly developed ; but I have seen others from the Himálaya in which this certainly was not the case, and am of opinion that Mr. Gould's examples are simply particularly fine old males in full summer plumage, which might doubtless be paralleled in Europe. There is no other difference whatever ; and the alleged *E. stracheyi*, Moore, I

therefore consider to be inadmissible as a species sufficiently distinguished from *E. cia*. As regards *Pyrrhulauda grisea* (anteà, p. 180), this bird is quite common a very few miles above Barrackpore, becoming so as the country gets more sandy, and wherever the Baubul (*Vachellia farnesiana*) abounds. *Calandrella brachydactyla* has always the blackish patch on each side of the breast; but in newly-moulted plumage this is little seen. The same patch is occasionally so much developed in *Melanocorypha torquata* as to meet its opposite in front, as was the case in the example from which I named the species.

Col. Tytler, in his paper, mentions two birds by the names of *Dicrurus himalayanus* (anteà, p. 200) and *Emberiza himalayensis* (anteà, p. 201), which I have great reason to suspect are no other than *D. longicaudatus* (the common hill species) and *E. pityor-nis*. His *Turtur meena* (anteà, p. 203), "common at all heights from 4000 to 9000 feet," must needs be the common Himalayan form of the same particular type, *T. monticolus*, Pallas (apud Jerdon), which is considerably larger than *T. meena*, and has white under tail-coverts, instead of their being deep ashy. *T. monticolus*, indeed, is precisely similar in colouring to the European *T. auritus*, from which it differs only in its very superior size. In *T. gelastes*, Temm., of Japan, the lower tail-coverts are pale ashy; and the hue of the upper parts in *T. meena* is always much deeper and richer than in the others. That *Turdus albocinctus* and *T. castaneus* (anteà, p. 198) are specifically identical I have long been disposed to think, but I regard them rather as two parallel phases than as indicative of age; and I suspect the same of *T. atrogularis* and *T. ruficollis*, especially as some examples of the former have the tail more or less rufous as in the latter.

In Mr. Hume's letter, for *Saxicola leucuroides* (pp. 234-5), substitute *S. opistholeuca*, Strickland; *S. leucuroides* has ferruginous lower tail-coverts.

E. BLYTH.

May 9, 1868.

SIR,—There is an unfortunate mistake in my paper as printed

in the last number of 'The Ibis,' which it is most desirable should be corrected.

The tables of dimensions and the description assigned at pages 166, 167 to *Corvus splendens* refer to the preceding species, *C. intermedius*.

I am, &c.

R. C. BEAVAN.

June 3, 1868.

SIR,—Mr. Wallace in his last communication (*anteà*, p. 216) mentions that he is informed that "there are several species from the Philippine Islands in the Norwich Museum not included" in the list of the Raptorial Birds of the Malay Archipelago, published in 'The Ibis' for January last (pp. 1-27).

The birds to which this remark applies, in addition to *Spizæetus philippensis*, which Mr. Wallace has included in his supplementary list (*Ibis*, 1868, p. 216), are the following three species of Harrier, viz.:—

1. *CIRCUS SPILONOTUS*, Kaup, figured in 'The Ibis' for 1863 (pl. v.), where Mr. Swinhoe (p. 215) gives some curious particulars as to its habits. It is not confined to the Philippine Islands, as that gentleman obtained it at Amoy and in Formosa, and I have also received a specimen from Singapore.

2. *CIRCUS MELANOLEUCUS* (Gmel.), which, besides occurring in the Philippine Islands, is found in China, South-eastern Siberia, Affghanistan, India, and Ceylon.

3. A third undescribed Harrier of the Philippine Islands is of the same size and configuration as the last mentioned, but of very similar colouring to the adult male of *C. hudsonius* (Linn.), which Professor Schlegel (*Muséum des Pays-Bas, Circi*, p. 3) mentions as a species inhabiting the Philippine Islands, but which I have never seen thence.

It is, however, decidedly a smaller species than *C. hudsonius*, and may perhaps prove to be a hitherto undescribed state of *C. melanoleucus*—a possibility which has hitherto restrained me from describing it as a distinct species.

I am, &c.

J. H. GURNEY.

SIR,—While thanking you very heartily for the kind and appreciative criticism of my paper "On the Classification of Birds" which you have published in 'The Ibis' for January last, I should like to be permitted to say a few words in reply.

In the first place let me express my satisfaction that you have drawn attention to Dr. Cornay, who undoubtedly deserves all the merit which may attach to the perception of the classificatory value of the palatine bones. As I have taken occasion to explain privately to Dr. Cornay, it was a matter of much regret to me to find that I had overlooked his paper. My only excuse is, that the many ornithologists (yourself among the number) before whom I had the pleasure of placing my notions, not only when they were brought before the Zoological Society, but on other occasions, seemed to be of one opinion as to their novelty, whatever they might think of their truth.

Next I may be permitted to congratulate myself that you go as far with me as you do, and that, whatever you may think of the method I have employed, you agree in what I regard as the most important results of the application of that method.

For I perceive that you make no objection to the division of the Class *Aves* into the three primary divisions or "Orders" of *Saururæ*, *Ratitæ*, and *Carinatæ*, which are wholly based upon osteological characters.

With respect to the second, however, you remark (p. 91), "Therefore the single-headedness of the quadrate is not a distinctive character of the *Ratitæ*; and, indeed, it seems to me very doubtful if any of the other so-called 'characters' of the palatal structure are of much greater value in distinguishing between the *Ratitæ* and the *Carinatæ*;" and again (p. 92), "I therefore venture to submit that the palatal structure does not sufficiently furnish Ordinal characters."

But where have I suggested that it does? In giving the characters of the *Saururæ*, the palate is not mentioned, for the good and sufficient reason, that we know nothing about it, if for no other. And, in the characterization of the *Ratitæ* and of the *Carinatæ*, the vomer and palatines occupy a very subordinate place.

I think that in every complete definition of a natural group

there are two kinds of characters:—1st, those which are *diagnostic* of the group; and, 2nd, those which are *common* to all its members, and are, so far, characteristic, though they may not be diagnostic. Thus in defining the class *Mammalia*, one does not omit to state that the blood is hot, though the warmth of the blood is not a diagnostic character of that group; and in attempting to define the *Ratitæ* and the *Carinatae*, characters which are common to all the members of those groups, though they may not be absolutely diagnostic of them, should surely not be omitted.

Further, it must be recollected that the diagnosis of a group may rest not merely on a particular character confined to the group, but on a peculiar combination of characters.

And it may happen that a well-defined group shall not have a single structural feature peculiar to itself, its peculiarity lying entirely in the mode of combination of those features; so that if each one of the seven characters of the *Ratitæ* which I have enumerated were discoverable in some other animal, but in a different state of combination (if I may express myself chemically), I do not think the goodness of the definition would be interfered with.

I quite agree with you, that “a really natural arrangement can only be made out by taking an aggregate of characters”; and, practically, I have endeavoured to express this belief by enumerating seven characters for the *Ratitæ* and three for the *Carinatae*.

On the other hand, whatever one’s notions may be about what is philosophical and what otherwise, it is a matter of fact and every-day experience in zoology, that the modifications of a solitary organ will sometimes afford indications of affinity of great value throughout a whole class, or even subkingdom.

What to an *à priori* speculator could seem more unphilosophical and one-sided than to attempt to arrange the *Vertebrata* according to their occipital condyles, or according to the way in which the lower jaw is connected with the skull? And yet by either of these characters one would be able to assign 999 vertebrate animals out of 1000 to their proper divisions.

Or, again, what can be (theoretically) more open to criticism

than the attempt to classify animals by such a "single character" as that of their molar teeth? And yet, am I wrong in saying that if we happened to have no better guide, the character of these teeth would, in a large proportion of cases, give us a very good idea of the affinities of the monodelphous *Mammalia*?

Under these circumstances I do not feel that it is within my "moral competence" (to borrow a phrase from a distinguished personage) to entertain *à priori* objections to the value of a single character for classificatory purposes. The question must, I think, be argued *à posteriori*, and with reference to each particular case. Teeth may be very good marks of affinity among the *Mammalia*, and very bad ones among the *Reptilia*; but their badness in the latter case will not affect their goodness in the former.

Now let me apply all these considerations to the subdivisions of the *Carinatae*, in which alone, let me remark in passing, have I ascribed a prepotent virtue to palatine characters. In the case of the *Schizognathæ*, I must look upon your objections as a mere unconscious dissembling of affection; for is it not certified under your hand (p. 92)?—

"That the majority of the forms united by Prof. Huxley under the title *Schizognathæ* are in reality very nearly allied, will be denied by no ornithologist, I believe, who thinks for himself."

And again (p. 93):—

"Now on all these points, except one, I had already arrived at opinions closely resembling those of Prof. Huxley, but quite independently of any considerations of the bones of the palate."

Could I ask for better evidence, that the schizognathous skull marks a great natural division of birds as well as, for example, the doubly crescentic molar pattern marks a Ruminant?

In the face of the pleasure that such valuable confirmation of the essential validity of my views gives me, I will not complain of the paragraph which follows—though I do think that any one who discovered that certain molar teeth are characteristic of the whole of the *Ruminantia*, might reasonably feel a little hurt in his mind if you told him that you had arrived at the

conclusion that they were all one group by studying their horns and hoofs, and that the introduction of these troublesome "characters, drawn from the dental arrangement" might "rather have the effect of complicating and rendering obscure what was simple and clear enough without."

All I can say is, that if you will point out what character, other than the palatine, is common to the assemblage of birds in question, I shall welcome the discovery as the very reverse of a complication or obscuration of ornithic taxonomy.

Before leaving the *Schizognathæ*, however, I am bound to observe that I do not deserve the credit you are kind enough to give me in one matter (page 92, note). I have found, since my paper was written, that Lherminier, long ago, and more recently Mr. Parker, have strongly insisted on the relationship between the Gulls and the Plovers.

To sum up, I have endeavoured to show:—

1st. That the *Schizognathæ* form a very natural assemblage,—a position which I understand you to admit.

2nd. That the schizognathous structure of the palate is common to, and diagnostic of, all the members of this very large assemblage, with the exception of a very few species belonging to the genera *Crax* and *Dicholophus*. This position also is not disputed on your part.

3rd. Nothing else approaching the nature of a common, still less of a diagnostic character for this great group has yet been discovered.

I assume that you will assent to this proposition also. And, in that case, I really do not see what foundation is left for the rejection of the group *Schizognathæ* as a primary subdivision or suborder of the *Carinatæ*.

I think as much could be said on similar grounds for the *Dromæognathæ*, the *Ægithognathæ*, and the *Desmognathæ*, though it must undoubtedly be admitted that the four natural assemblages* of birds which compose the last-named suborder

* That is to say, 1. the *Chenomorphæ*, *Amphimorphæ*, *Pelargomorphæ*, *Dysporomorphæ*; 2. the *Aetomorphæ*; 3. the *Psittacomorphæ*; and, 4. the *Coccygomorphæ*.

are far less closely united together than those which make up the division of the *Schizognathæ*.

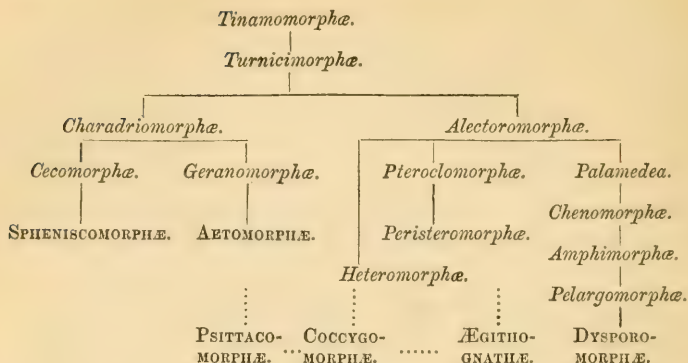
All classification by logical categories, such as that which I have attempted in birds, however, is more or less artificial, and must be regarded as simply a first and most important stage in the progress towards the ultimate goal, which is a *genetic classification*,—a classification, that is, which shall express the manner in which living beings have been evolved one from the other.

Classification by gradation, and the formation of natural series, is another stage in the same progress, and must by no means be confounded, as it often is, with the ultimate result—though, in all probability, it represents a true genetic classification more nearly than any other arrangement can do.

I believe that the broad outlines of such a gradational classification of Birds may be sketched out with tolerable accuracy, even though the details may have to be a good deal modified by subsequent research. Thus I take it to be demonstrated that the *Tinamomorphæ* are those carinate birds which approach nearest the *Ratitæ*; and I think it may be shown that the great majority of the *Carinatae* fall into one or other of four series, which diverge directly, or indirectly, from the *Tinamomorphæ* as a common centre.

Thus *Turnix* leads from the *Tinamomorphæ* to the *Charadriomorphæ*; and from the latter, two series start—the one commencing with the Gulls and ending in the highly modified Penguins, the other commencing with the Bustards and Cranes, and ending in the highly modified *Aetomorphæ*. On the other hand *Turnix* leads to the *Alectoromorphæ*, which is also the starting-point of two series—the one commencing in *Palamedea*, including the *Chenomorphæ*, *Amphimorphæ*, *Pelargomorphæ*, and culminating in the highly specialized *Dysporomorphæ*; the other beginning in *Syrhaptæ* and passing on to the *Peristeromorphæ*.

These series would stand thus, the names of the most differentiated groups being in capitals:—



I do not think that any one who will examine the facts will be disposed to doubt that this scheme nearly represents the affinities of the groups in question. The great difficulty is to determine the relations of the *Coccygomorphæ*, *Psittacomorphæ*, and *Ægithognathæ* to these; and I have ventured to indicate those relations only in the most doubtful and hypothetic fashion.

Ever yours very faithfully,

T. H. HUXLEY.

On Thursday, the 11th of June, a paper was read before the Royal Society, describing the osteology of *Pezophaps solitaria* from the bones which, as we last year mentioned, were obtained from Rodriguez by Mr. Edward Newton. At the same time a beautifully mounted skeleton of the Dodo, and two (supposed to be male and female) of the Solitaire were exhibited. These were put together by Mr. J. W. Clark, the able and energetic Superintendent of the Museums of Zoology and Comparative Anatomy in the University of Cambridge, where the specimens are deposited.